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AND
PHOTOGRAPHIC ENLARGER.
EDITED BY J. HAY TAYLOR.

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Notices.

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Notes.

MONTH by month we have been watching the completion of the new oxygen compressing works of Messrs. Leonard Chapman & Co., at Sheffield Street, Lincoln's Inn, W.C., and for some months past we, through the kindness of Mr. Chapman, have during that time always been welcomed to see how matters were progressing, the only understanding being that we kept it to ourselves until the machinery was in working order. Their first announcement was made in their advertisement on the first page of our last issue, and seems to have taken everyone by surprise. We are now able to say that the compressing plant is most elaborate and complete, and that the oxygen made by this firm will be about 99 per cent. pure. Mr. Chapman is the inventor of the well-known "bull-nose" connecter and valve, and controls several patents both at home and abroad in connection with the production of oxygen. All cylinders issued by this firm are to contain a Government stamp.

* * *

DURING a recent trip to Antwerp, we were surprised to learn that all cylinders of compressed gas used there had to be conveyed from London. Consignments of filled cylinders are sent to Mr. Louis Van Neck, of 10 Klapdorp, who distributes them to the users.

* * *

WE observe that the editor of the *Australian Photographic Journal* occasionally adopts an easy method of obtaining what might appear to his readers to be original articles. In the April number just to hand, the lower portion of page

211 contains an extract from the Optical Magic Lantern Journal of February, and on page 217 another extract from the same source. The source from which these are taken is not acknowledged; but as on a previous occasion an article taken from our pages was only acknowledged three or four months afterwards, perhaps we may read in the September number of the *Australian Journal* that the information was taken from the Optical Magic Lantern Journal of last February.

* * *

We have received a note from Mr. Y. Isawa, Editor of *The Shanshin Sowa*, stating that in future a portion of that photographic journal will be printed in English, in connection with which department Prof. W. K. Burton has promised his aid. Hitherto we have had to be content with looking at the pictures of our contemporary, as our education respecting the Japanese language has been somewhat neglected. But the number just to hand, containing a portion printed in English, proves of great interest. *The Shanshin Sowa* is published at 18, Nichiome Minami Sakumachio, Shiba, Tokyo, Japan.

* * *

The Home Secretary has at last taken up the subject of compressed gas in cylinders, and has appointed the following committee, Prof. C. V. Boys, Prof. H. B. Dixon, Dr. Dupré, Rev. C. F. Smith, and Prof. Unwin, to enquire into and report on the manufacture, filling, and use of gas cylinders. A preliminary meeting was held at the Home Office on the 24th inst., and it is expected that within a month visits will be paid to certain works and the report completed.

* * *

In their catalogue of lantern slides for the coming season, Messrs. Newton & Co. intend adding at least two thousand subjects (scientific and otherwise) to their already large list.

* * *

Mr. Eadweard Muybridge has announced that during the season extending from October next until March, 1896, he proposes to give a series of lectures in Great Britain, on "The motion of the Horse and other animals, in Nature and in Art," illustrated with forty new Zoopraxiscopic projecting discs. His works on Animal Locomotion are so well known that it is perhaps unnecessary to say that the analysis of movements by Electro-Photography, and the synthetic reproduction of those movements, originated with him during his preliminary researches in California in 1872; since that time, under the auspices of the University of Pennsylvania, his attention has, almost exclusively, been devoted to the subject.

* * *

There is a clause in the New Zealand Option Bill providing that every man convicted of being an habitual drunkard shall be photographed at his own expense, and every publican in the district in which he lives supplied with a copy.

* * *

In recognition of the pleasant outing to which Mr. Walter Tyler invited 120 of his friends (as reported in our last issue), an illuminated and framed testimonial has been presented to him in the name of his guests. The testimonial contains at the foot the names of the subscribers.

* * *

Mr. C. W. Locke, whose name has long been associated with the firm of Messrs. D. Noakes & Son, of Greenwich, has dissolved partnership with that firm, and has entered into business at 244, Tottenham Court Road, as a maker and dealer in lanterns and apparatus pertaining thereto. On 20th ult., Mr. Locke exhibited by means of one of his new instruments at the Royal Albert Hall, on a screen 37½ feet square, with excellent results.

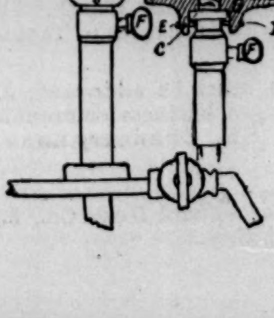
—:o:—

Convenient Method of Raising or Lowering a Jet.

In a letter recently received from Mr. R. W. J. Leicester, of Gawler, South Australia, he informs us of a convenient method he has adopted for raising or lowering the jet of his lantern.

The addition to the jet can be readily made by one handy with tools, and failing that, the cost of alteration would be very little and could be carried out in a short space of time.

The following sketch needs little explanation. The end of the supporting rod (A) must have a screw cut on it and on this the nut (B) turns. (C) is a circular shoulder which is soldered to the top of the tube of jet. The nut (B) must be cut away so that there is left room for the free



turning on the collar (C). This having been done nothing further remains but to put two small screws (D) and (E) into the lower part of the nut so as to project below (C). It follows then, that by turning the nut (B) the whole jet will be raised or lowered as desired. The usual clamping nut (F) on the jet suffices to prevent side movement.

——:o:——

Illustrated Sermons in America.

By Hugh Gatesby.

I have been somewhat behind in keeping up with the times with regard to lantern matters, for I have been travelling for some time past in the United States, but now, having returned and received the missing numbers of the valuable magazine, The Optical Magic Lantern Journal, I find that the contents are so voluminous that it will take me some time to digest them.

I think it was in the last number that I had the pleasure of reading that the editor had something or other to say about the lanterns in churches in this country. Here they seem to arrange matters in a quiet, unassuming way, but in America there is a certain amount of dash about them, at least in the particular church that I attended. *Here* it would appear that the slides to illustrate sermons are made and supplied by firms to an extent devoted to the purpose, but *there*, where there are so many amateur photographers, even including the ministers themselves, matters are arranged on a different scale, in fact I may say in a bold manner.

In one church in particular, the lanternist was almost as important an officer as the minister himself. The lanternist controlled the entire lighting arrangement of the church from his gallery, where he and the lantern were stationed. This gallery was in communication with the pulpit with electric bell and also telephone. The screen was not a large one, but still, was sufficiently large to enable the projected view to be plainly seen, the small size of the disc being compensated for by the brightness of the light confined to the small area. A touch of the bell and the operator lowers the light and projects the desired picture. I may here say that the reason of my being in the know, was, that I got introduced to the operator, and was invited to be present with him in his little gallery. The particular views illustrated on this occasion were, he informed me, commercial slides supplied by a well-known firm of lantern and slide dealers in Chicago, and the life models were all taken by either the minister or his son. As far as my memory carries me, the parson himself posed in suitable pose, and garbed in suitable garb, represented some good man. His wife, daughters, and sons also figured largely in the *tableaux vivant* looking sort of groups. Possibly he had conscientious scruples about allowing any of his own family to appear as the devil, for this personification, I was informed, was represented by his manservant or butler, and I must admit that, dressed as he was, he made a very good devil, complete in every respect, including tail and pitchfork. One thing, however, was very noticeable, and that was that in the life model slides the minister's family represented the good and shining lights mentioned in the Bible, and that all the questionable characters where either photographs of his friends or his servants.

I need hardly say that the attendances at this church were very large, consequently the collections must have been somewhat on the same scale, especially as a special device with a floral design reminded us that "The usual collection will now be taken."

Personally, I make no comment upon the above with the exception of saying that we in England have not yet arrived at such——— the reader can insert either the word *perfection* or *imperfection*.

——:o:——

Politics and the Lantern.

By The Mudlark.

It is quite evident that no election can take place now without the lantern being called into requisition to enlighten the electors by some means or other.

During the last County Council election it was largely used all over London, and many candidates turned lantern lecturers for the first time, and endeavoured to strengthen their arguments as to the work the Council had done for the people by slides of the parks, slums, improvements, drainage works, fire brigade stations, and the various projects either contemplated or which the late Council had in hand; also by special diagram slides showing the attendances of members, cost of schemes, etc., etc. These were shown for the most part in halls or schoolrooms in the usual orthodox manner, and as it was known before hand when the election would take place, ample time was given to prepare the lecture and get the slides ready ; but at the recent Parliamentary contest in Walworth—which was one of the quickest, if not the quickest contest known—there was no time to prepare anything bearing strictly upon the questions now immediately before the Houses of Parliament, but the contest had scarcely begun when the inhabitants of that salubrious (?) locality were being regaled nightly with a peripatetic lantern show.

During the day one of those cumbersome pantechnicon vans—so much dreaded by the ordinary householder who has to shift his belongings—drawn by two horses, wended its way slowly through the streets, covered with banners and bills, doing duty as a perambulating hoarding. At night it was taken to various dark corners (and there are many in Walworth), the doors at the back having been removed, and a small sheet stretched across the end, and various slides relating more or less to the past political events were shown through the screen, the operator and lantern being inside. Seeing the wave of heat we had at the time, and that there is not the slightest attempt at ventilation in these huge boxes, the operator must have had a rather warm time of it. The warmth of the Irish gentleman outside who addressed the meeting sometimes raised the temperature of the audiences, and made things warm generally, but the operator was safe enough inside (I was almost about to say inside his safe) from any onslaught which might be made by the opposite party. When they wished to "move on" the gas was turned off, and he was told to "hold on tight inside," and the lecture hall was moved to some other and perhaps cooler spot.

But the pictures being only about five feet six inches square, and part of this even hidden by the speaker on the tailboard—whose address by the way did not always coincide with the picture upon the screen—and as the whole thing was very low down, when it was surrounded by the youths of Walworth it was impossible for anything like a large number of people to see anything but the tops of the slides—church steeples, trees, etc.—so that from a lanternist's point of view the exhibition could not be voted a success.

But soon another Richmond was in the field. The other side quickly requisitioned a lanternist to go "one better" than that "lumbering galanty show affair." This he did by fixing a screen on the ordinary elevator on the side of an ordinary light four-wheeled van by means of struts from the other side; this gave the van itself for the platform. The bottom of the sheet (which was a ten feet one) being sufficiently high to almost clear the head of the speaker. The lantern and operator were in another light van, the lantern being fixed to project the picture from the back. The exhibition was very quickly started by turning the van with the sheet across the road and slowly drawing the lantern van away from it until the picture filled the sheet.

The lecturer, a well-known and active clergyman in the district, had his own slides, many of them taken by himself, and consequently they were fully described; and as everyone could see the pictures, and as the meetings were fully announced, audiences of some hundreds of people were the result. A kicking horse on one evening rather discomposed the operator, and the show could not be proceeded with until the horse was removed; this was a little more fun for the assembled crowd.

As a lantern show the latter was certainly the best, but whether either had any influence on the election, or effected in any way the result, is a very doubtful question.

A third show was given by an evening paper on the night of the polling from the roof of one of the shops in the Walworth-road, near the Vestry Hall. The immense crowd were entertained by portraits, etc., until the result was shown by a slide with the names of the candidates being prepared previously and the numbers inserted at the last moment.

Seeing that the candidate who gave the best lantern show came off second best, one is inclined to think that the use of the lantern did not influence the voters to any extent. Be that as it may, rumour says that a general election is not far off, and although, as Lord Dundreary used to say, "Politics is a thing which no fellah can understand," and although the ways of the voter may be mysterious, when it does come, there will be a good time for political lanternists of both sides, and the poor professional lanternist who is neither or either for the time being.

——:o:——

The Lantern Stroboscope.

By Irex.

The human eye has been considered by one of our greatest philosophers to be an imperfect organ of vision, but whether that be so or not it is certain that it has its limit in the observation of things in motion. There are a large number of phenomena that occur to us which is due to what is called persistence of vision. A simple example of persistence of vision is seen when we take a piece of string, light one end, and, with the glowing spark obtained, twirl it round, when we shall have, if the string has been twirled fast enough, a circular ring of light. This is because the points of light are so rapidly brought to our vision that the previous ones have not had time to die away. Plateau made a number of experiments and came to the conclusion that the average duration of an impression upon the retina of the eye was half a second, but although the duration of the impression upon the retina of the eye is half a second, still a flash of light occupying a very small fraction of that time is sufficient to give that impression. The action of a running horse as is usually painted by artists is erroneous when looked at from a scientific point of view—that is, when photographed in a fraction of a second. The same results would be seen if instead of photographing the running horse in a small fraction of a second we were to suddenly illuminate it with a flash of light; we should then see the horse as it were stationary, as when a flash of lightning illuminates the surrounding objects at night.

The stroboscope, a simple apparatus which has been devised and adapted to the lantern, enables us to make objects that are really in motion appear to be stationary, or moving at a much slower rate. The stroboscope described later is so simple a piece of apparatus that any one possessing a lantern should make one, as by studying its principle and the application of it for physical research much knowledge can be thus gained. The apparatus consists of a circular disc of card or metal about six inches in diameter with six equidistant holes about half an inch from the edge. This disc of card or metal is fixed in the focus of the condensing lens —removing the objective—as shown in Fig. I., and is made to revolve as regular as possible, the speed varying with the experiment you are applying it to. To obtain a uniform speed it is necessary that the disc should be heavy and composed of metal, but when the motive power driving the disc has its own fly-wheel attached the heavy metal disc can be dispensed with and card substituted. For rough experiments the disc could be turned by hand as by the apparatus described, but in some of the more interesting experiments a motor of some description giving a regular speed of motion must be resorted to. A motor, such as a small electric motor, which can be obtained very cheaply, would serve the purpose, as the speed can be easily varied.

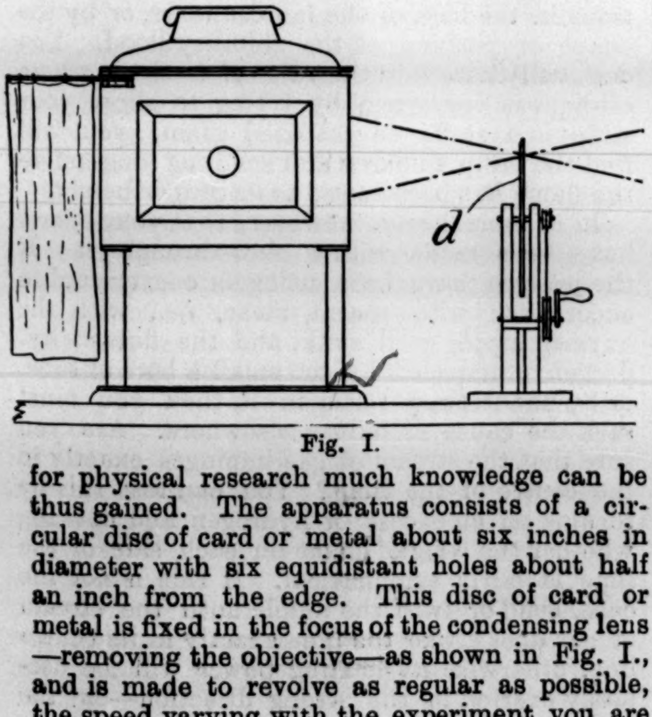


Fig. I.

Figs. II. and III. are suitable for use with the hand. Fig. II. is an edge view and Fig. III. a front view. Two uprights AA are strongly fixed in a base B, and at the top of the uprights AA an axis C passes through, which axis has mounted upon it a circular disc D with the holes around the circumference equidistant apart. It is necessary to have the holes equidistant apart, otherwise the flashes of light will not occur at regular intervals—as is required. Upon the axis C is a small pulley E having a cord F passing over it, and around another pulley I somewhat larger mounted on an axis G, below the axis C, and low enough for the disc D to clear itself and have free movement. Upon the axis G is arranged a handle H for giving motion to the wheel. The whole should be made to run smoothly and freely without jerking.

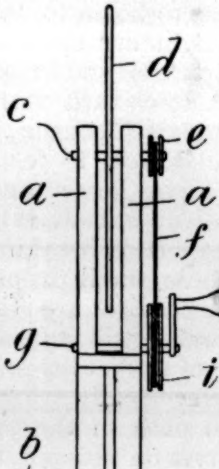


Fig. II.

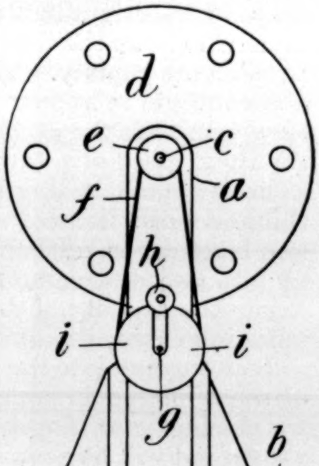


Fig. III.

Such an experiment as the following, which was shown during a course of lectures at Jermyn Street Museum by Professor C. V. Boys, gives an example of the kind that can be shown by the stroboscope. The objects experimented upon were jets of water. The jet of water from a small nozzle was brought under the influence of a tuning fork kept in motion by means of electricity. The drops of water composing the jet were thus broken up into a distinct order varying with the note used. To the eye little change was seen, but when an intermittent shadow of the drops of water was cast upon a white screen by the stroboscope the distinctive forms of the drops of water comprising the jet could be easily seen by the audience.

If only one person is to see the phenomena the lantern can be dispensed with and the eye placed near the holes of the stroboscope and viewing the fountain against a bright background—for instance the sky. It is curious to notice, in showing these experiments, that the drops of water gradually appear to begin to fall more slowly as the flashes of light are allowed to fall more rapidly. The drops form and break and continue to appear to fall downward more slowly, so that the drops of water will be seen, if the right speed of rotation is obtained, to form a neck which will gradually get longer and thinner until it breaks and divides itself into two large drops, with the waste portion breaking up into two and sometimes three small drops. When the rapidity of the flashes of light are still more increased, the drops of water will appear to be returning into the nozzle of the jet instead of the direction in which they are really going; by placing your finger in the path of the jet your mind will be soon set at rest on that point.

Those who are interested in the foregoing experiments cannot do better than get a copy of Professor Boys' "Book on Soap Bubbles," where they will find a large number of experiments like the previous, and by carefully studying it their field for the wider application of the lantern will be much increased. Professor Tyndall's "Book on Sound" also contains many experiments like the one above mentioned, suitable for demonstrating with the lantern.

Another ingenious application of the principle of the stroboscope to the microscope is by Hopkins of New York, and consists of a small metal diaphragm with a number of holes equidistant from the edge, operated by a small electric motor and fitted below the substage of the microscope. It will, he says, be found useful for showing more distinctly the motion of those small aquatic insects whose action of the parts of their body are so rapid as not to be able to be discerned without its aid. One can see no reason why it should not be fitted to a lantern microscope also. When once the principle has been grasped—which will soon be done after a few experiments—many uses will be found for it which will readily suggest themselves to the reader.

Light.

INTERCEPTED CORRESPONDENCE.

SIR,—I trust you will pardon the liberty I am taking in addressing you thus, but your eminence in lantern matters is so great and your kindness and condescension so well known, that I venture to ask your help and opinion on a difficulty with which I am troubled. Briefly, it is this, although my optical apparatus is high-class and every care is bestowed upon it, I frequently fail to get a good light with it. If you can spare time to give me a hint or two I shall be extremely obliged.

In anticipation,
Gratefully yours,
BOMBASTES TRIPLE, ESQ. A. B. GINNER.

MY DEAR SIR,—Although extremely busy I shall be delighted to extend you a helping hand and do what I can to solve your difficulties for you. My experience is always at the service of anyone who, like yourself, shows a due appreciation of my abilities. This communication to you would have been briefer if you had stated the particular luminant you have been using, whether oil-lamp, blow-through, mixed or saturator; but as you do not mention which form you have adopted, I must give you a few hints on each.

If you have been using an oil-lamp, let the very best oil and new wicks for each exhibition be your rule. Ascertain by experiment that your lamp is at its most effective distance from the condenser, and make sure that a plentiful supply of fresh air reaches the wicks, and that its flow is unchecked either by want of perforations in the base of the lantern body, or by the shape or position of the chimney hood. You can easily ascertain the value of fresh air where oil-light is concerned by trying to show your slides in a stuffy unventilated room, you will find the lamp smoking and smelling long before the flame has been raised to its proper height.

It is more likely, however, that your efforts have been made with a blow-through jet. If the jet you have been using is constructed in accordance with recent ideas, *i.e.*, with the oxygen nipple well sunk, and the flow of hydrogen unimpeded by too small a bore of tube, or by unnecessary turns in it, then you must seek the cause of failure elsewhere. Are you sure that the stream of gas impinges exactly in the centre of the lime? You can test this by turning on an excess of hydrogen and noticing whether the wing of flame on each side of the lime is fairly symmetrical. If this is not the case, bend or twist the nipple until the stream of gas does strike the lime exactly in its centre line, otherwise its heating power will be uselessly exerted in the wrong direction—on the lantern body for instance. Again, there is another matter upon which the efficiency of a blow-through, or for the matter of that, any and every kind of limelight jet depends, and that is, the quality of the oxygen used. No amount of skill or experience can possibly remedy the defects which occur when one has to work with impure gas. Where the gas is bad the results must be bad, no matter what quality of apparatus is used. It is only fair to say that the gas supplied commercially is generally of good quality and sometimes even excellent, but, on the other hand, I can remember occasions upon which the oxygen thus supplied has been obviously at fault. If you are aiming at superlative excellence of results I recommend you to make your own gas from the purest materials, but at the same time I may add my opinion that, in nine cases out of ten, you will have little to complain of if you use the ordinary oxygen procured from the dealers.

If you are satisfied that the oxygen you habitually use is all it should be, what about your limes? Long ago, when limelight was in its infancy, someone suggested the use of soft limes for blow-through jets. If you care for an expression of personal opinion in the matter, let me tell you that soft limes are of no advantage whatever, and that the use of them, moreover, is attended by several undeniable disadvantages. They are frequently ill-shapen, lop-sided things, they crack, often enough, for no reason at all, their keeping qualities are poor, they are too big in diameter and encourage the production of a large luminous surface instead of a brilliant point, and above all, they are at any time incapable of giving a better light than the smaller truly-turned hard lime. It will be wise therefore to see that your limes are not partially accountable for your failures.

There is yet another point which the inexperienced lanternist is apt to disregard, and that is the opaqueness of the screen he uses. It too often happens that a blow-through jet is regarded as a sort of second-rate piece of apparatus for which any makeshift in the way of a screen is suitable. Of course the very opposite of this is true; for the less the illuminating power of the system used, the greater the need of a really opaque screen. Those now sold by the dealers are most excellent, and I can strongly recommend their use whenever possible. One last word with regard to the blow-through jet, and that is, do not believe that it is so very much inferior to a mixed jet. Properly designed, well-made, and used with short focus lenses and other suitable accessories, it is capable of giving results very little inferior to those produced by the other forms. If it has a weak point, it is failure to give the best definition, but in this regard a bulky soft lime with its extensive luminous surface is often more to blame than the jet itself.

The satisfactory performance of a mixed jet depends upon much the same causes as the other, but in addition to these the question for the most suitable bore for the nipple has to be considered. This again depends upon the pressure habitually used. If your gas is supplied from cylinders, where pressure is unlimited, the best light is obtained by the use of a nipple with a moderately large bore, but unless you always have sufficient pressure at your command I advise you to content yourself with the light obtainable from a nipple of medium size. Of course you read THE MAGIC LANTERN JOURNAL, well, when the next number comes to hand take a look at the letter "o" in the word "post free" on the front page, the size of that letter will give you an idea of what I mean by a medium aperture for a nipple; the same letter in the word "stationers" above it is too small, while the "o" in "Vol. 6" is largish, but perhaps not too large for an expert to use. If you are satisfied that the nipple of your jet is a suitable size and is not to blame for the poorness of light of which you complain, possibly the fault may be sought for in the quality of the hydrogen you are using. You are probably well aware that under ordinary circumstances coal-gas and not pure hydrogen is supplied. The former is practically as good as the latter, except in one particular, and that is, its keeping qualities when stored for any length of time under great pressure, are uncertain. It may keep good for weeks, but on the other hand it may deteriorate in a couple of days to such an extent as to be almost useless for limelight purposes. Perhaps, therefore, the reason of your partial failure is to be found in the fact that you have been using coal-gas which has been "too long in bottle."

One more caution concerning the practice with the mixed jet. The best results are only obtainable after considerable experience, and if this has been your first season with it you must not complain if occasionally the light has not been all you expected. Mixed jets vary much, and when you become more familiar with the peculiarities and requirements of the particular one you possess you will find your difficulties vanish.

Lastly, there remains the growing family of saturators. If you have fitted your lantern with one of the well-known patterns but yet fail to get good results, I can only recommend you to apply to the makers or patentee, and so get the help you need at first hand. I constantly use one of the advertised forms myself, and I think that the strongest point in its favour is the fact that, once the working of it is thoroughly understood, it is capable of giving a good light on all occasions with a minimum of trouble and care. I hope the above hints may help you over your difficulty. From them you will see that to obtain the best possible results all you have to do is to make sure that the optical system of your lantern is perfect, that your jets are serviceable, your limes of best quality, your gases pure, your screen opaque, and your head clear. Given these, together with a little experience, care, forethought and intelligence, I am sure you will succeed in the future; you can see for yourself that the matter is quite a simple one.

I am,
My dear Sir,
Faithfully yours,
BOMBASTES TRIPLE.

A. B. GINNER, ESQ.

—:o:—

The Lanterns of Photographic Societies.

A MATTER which does not seem to have attracted attention, is the vast amount more instruction and amusement which photographic societies might obtain from their lanterns—by incurring a little more expense in their purchase—in obtaining those which have a vertical attachment and a prism. Chemical reactions, and crystallisation by the heat of the radiant on a level surface, instead of with all the liquid running down to the bottom of the plate, could then be shown upon the screen, and some of these phenomena are extraordinarily beautiful. Professor Tyndall "brought down the house" by the exhibition of the crystallisation of red prussiate of potash, as projected on the screen at the British Association at Dundee, a quarter of a century ago; to see the molecules building themselves into these wonderful structures is as interesting, he said, as if we saw the bricks of the town of Dundee running about and building themselves up into fairy palaces, and Kinnaird Halls. Some slides of crystals of hippuric acid, prepared by Dr. Charters White, were shown recently at the Camera Club, and it was suggested that if photographed on wood or paper, what wild designs, rich in organic form, they would make for wall decoration. How much more effective would they have been had they been shown in actual course of formation? By the vertical attachment, an ordinary meeting room with a level floor is in many respects placed on an equality with the theatres at the Universities with raised seats, so that the spectators can look down into the dishes on the lecture table and see what is going on in them. Photographs of paintings on the roofs of cathedrals, with their architectural immediate surroundings, look unnatural when projected on a whitened wall, but let a prism be brought into play and project them on a white ceiling, and their full beauty comes out. Then again, the prism does for erecting purposes, and shows many an interesting physical and chemical experiment on an enlarged scale, which otherwise would be seen bottom upwards. Many of the better educated members of photographic societies are prevented showing interesting experiments to their fellow members because the ordinary lanterns of those societies are not adapted to the purpose. The black-board can be abolished by the vertical attachment, and the lecturer draw his own diagrams on a small horizontal surface, showing the designs projected on the screen as they are drawn.

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Why are Lantern Exhibitions Less Popular?

BY R. MOSS.

ALMOST every number of the OPTICAL MAGIC LANTERN JOURNAL contains articles or correspondence dealing with this important question. A recent letter by Mr. Taunt, being perhaps the best explanation that has yet been given, while an article in the April issue entitled, "Lecture Notes" is also very suggestive of some causes of failure, many other contributors also make valuable suggestions.

In almost every case however, the writers argue, not so much for the well-being of lantern work as a whole, as against something which touches them personally; thus, the professional lanternist blames the amateur for incompetency, the lecturer ridicules the bungling reader, while these in return have a grievance against the professionals for the sneers, etc., cast upon amateurism.

Now, I am quite prepared to admit there is a good deal of reason in all that has been said, yet as lanternists—be we amateur or professional, lecturers or readers—our chief aim should be to make the lantern popular among all classes and thus benefit all alike.

Many competent lanternists complain, and with good reason, of the miserable shows given by those who hire slides (as wanted), and only receive them the same day that they are to be used; these forget that for another half hire they could be had the day before, while the reading could be procured any time in advance by paying for it, generally 6d.

There are others who buy a lantern (often cheap) and sets of slides, or more frequently a lot of miscellaneous ones, with little possibility —even if they had the capacity—of making anything like a passable, let alone an interesting lecture; these people being generally philanthropists (?) push their services, gratis, wherever they can get them accepted, and one such entertainment is quite sufficient to make even the well-known Mr. Malden a failure in that place afterwards.

Again, there is the inferior professional who only leaves a miserable impression of utter dulness behind him wherever he goes. One might mention others, but we must face the fact, for fact it undoubtedly is, that quite 90 per cent. of the lantern shows are given by one or other of the classes above named and no amount of argument or ridicule will materially diminish the number.

But cannot something be done to raise the status of these very amateur operators and lecturers? many of whom are in total ignorance as to the why and wherefore of the instruments they manipulate. I think a good deal is possible, and I would suggest that a copy of this Journal might be sent to everyone known to commence to dabble in lantern work; it could easily be done if each reader in every town or village would either send a copy to those in the neighbourhood or drop a card to the Editor, giving names and addresses. I am quite certain that no one could read this useful Journal for long without having their interest aroused, and sufficient intelligence awakened to shame him out of the "muddler stage" of lanterning, with which so many are at present content.

But probably the remedy lies more with the trade than with anyone else, and it is also more to their interest to move in the matter, for if the decline in patronage of lantern shows goes on, people will simply leave off buying apparatus and slides, and their business must in consequence fall off.

While there are many really good slides on the market, especially recent productions, a very large proportion, whether offered for sale or hire, are by no means as good and clear as they might be. I have seen a good many trade sets, but none came up to an amateur set (150) of North Wales, taken by and belonging to a Llandudno tradesman. I once showed this set with an ordinary 4-wick W oil lamp in a lantern, with 6 in. equivalent focus lens, getting a picture 11 ft. 6 in. or so, with better results as to clearness and brightness of pictures than I recently obtained with a trade set of Norway, using a 5 in. equivalent focus lens, a blow-through jet and a 9 ft. screen, the style of scenery in both cases being somewhat similar.

Further, as a rule these trade sets are so incomplete, generally some of the most important (through being probably most difficult to obtain) features are absent, fancy a set of Norway, nearly all inland views, and not even one slide of the beautiful rock bound fjords; imagine Ireland without the jaunting car, shillelagh or Donnybrook Fair, and not even a peasant's cottage with the inevitable pig; or Jersey minus the chars-a-banc with their elaborately dressed conductors, the beautiful lanes arched completely over with trees or even a zig-zag road down the face of some cliff or hill.

Look again at the life model sets, there are dozens of them which have important pictures omitted, probably because they would entail some trouble or expense to procure. I will just mention two, Horner's popular and telling "Wops the waif," both the theatre scenes are left out, and also one or two other situations equally missed, while the popular temperance service of song, "Which side wins," is made almost unintelligible by at least half-a-dozen such omissions; in short, I scarcely know of a set that could not be immensely improved by the addition of one or more slides.

Then the readings, well, the least one can say is, that they are dry, "orfully dry," I heard it expressed last week at a lecture on Norway, where we got the reading pure and simple. The Rev. gentleman who was announced to "deliver a lecture on the beauties of Norway," had evidently not even read it over before he came into the room; he was, however, a fair reader and had there been a good description, very different opinions might have been expressed, but there was absolutely no life whatever in it, it was a case of "This is the —— glacier, so many feet wide, so high, so long, etc., etc.," it is a most wonderful sight, etc., and so on; nothing about the people, not even an anecdote, real or invented, of the writer standing here or there, or slipping down somewhere else, absolutely nothing to enliven the monotony of dry statistics and statements. Further, how very ancient some of these slides and readings are; in this particular lecture figures were quoted, giving the date of their compilation as 1874—how interesting and reliable. The same thing happened some few weeks ago when I was operating at a lecture on China. A really good and up-to-date lecture had been prepared but the views were quite twenty years old, and in the reading which accompanied them, 1872 was the latest date quoted.

Such cases might be multiplied *ad lib.*, and I for one think that the trade can do a very great deal to improve even very amateur lectures, by making their sets and descriptions so attractive and complete that even if read as printed they will constitute a really instructive and interesting entertainment.

I am quite willing to admit that the sets and readings above indicated would cost more, but what lanternist would not be willing to pay the prices—say of three or four years ago—for slides or hire when they got better value for their money.

In conclusion, "How to check the decline" is a big order, but I fancy a little united effort upon the lines I have sketched may at any rate do something to raise the tone of our lectures and entertainments, and educate our embryo lanternists, after which we must rely upon judicious stage management and advertising to get the public to take an interest and thus make our lantern shows once more successful.

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New Apparatus.

THIN FINGER STALLS.

Messrs. Marion & Co. have introduced finger stalls of such exceedingly thin rubber for use in photographic manipulations that, owing to their extreme thinness, the touch is retained, and in consequence of this they have named them "Sensitive Finger Covers." They are kept in a rolled up state, and when about to be used are unrolled on the fingers as shown.

"MOONLIGHT" LAMP.

We have received a strong and convenient little lamp from the "Moonlight" Patent Lamp Company, of Fenwick Chambers, Liverpool. It is particularly neat and handy and can be carried in the pocket without fear of spilling as it contains no loose fluid. It is charged with deodorised benzoline, which becomes absorbed in the internal packing. One charge enables the lamp to give a good light for four hours at a cost of less than one farthing. Placed inside of a ruby lantern it is excellent when developing photographic plates, and as a reading lamp at lantern lectures it cannot be surpassed for ease of lighting and general convenience. This Company also makes a variety of lamps on this principle to fit in candle-sticks, piano sconces, and cycle lamps, as will be seen from their advertisement on another page.

BESSUS FILM HOLDER.

A new design of these holders has been issued and may be obtained from all dealers. They are made for both rollable and for cut films. For the former the two handles of Fig. I. are merely pressed together, and the film inserted on the holder, when it will be ready for developing, etc. As the handles of the holder are made to swing, the holder may pass through all the manipulations, and the whole thing be hung up until the film is dry. For cut films the design is like Fig. II., and the film is merely inserted in a groove.

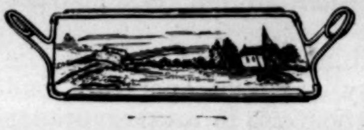


Fig. I.

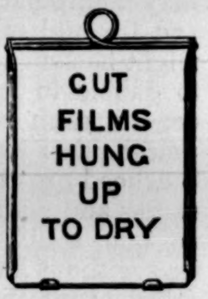
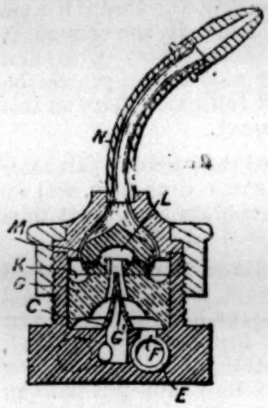


Fig. II.

NEW MIXED LIME JET.

Mr. W. C. Hughes will shortly introduce a new form of jet, which has been patented by Professor Malden. The intention is, so to speak, to draw out the hydrogen from the main at a greater rate than it will flow in the ordinary course, so that increased illumination may thus be obtained by a mixed jet and hydrogen from the main.



As will be seen from the illustration, the oxygen gas issuing from the nozzle C at high pressure sucks the low pressure hydrogen or other gas up through the channels E, F, G, into a chamber L. The gases are then forced by the pressure of the oxygen in the nozzle C, through a number of apertures M into an annular groove K, whence the mixture ascends the tube N to the burner nozzle.

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Editorial Table.

GUERQUIER'S DRY PLATES.—Messrs. Perkin, Son & Rayment, of 99, Hatton-garden, E.C., having recently been appointed agents for the dry plates manufactured by Messrs. Guerquier & Co., of Ghent, Belgium, sent us a few packets for trial. This we did during the holidays, and on developing, found them to be rapid, of fine gradation, and brilliant.

WILLIAM TYLAR, of Birmingham, has, within the last few days, issued a neat and imposing catalogue, and has wisely made it of pocket size. It has an attractive cover, and is very complete in setting forth particulars and illustrations of everything required in either the photographic or lantern line. Some pleasing half-tone illustrations are also given in this book, which contains upwards of 150 pages. 4d. sent to Mr. Tylar, 41, High-street, Birmingham, will ensure a copy being sent by return of post.

CYCLOPÆDIC PHOTOGRAPHY.—London: Dawbarn & Ward, Limited. This large volume, practically written by various authors, and edited by Ed. L. Wilson, Ph.D., New York, forms a very interesting dictionary of photographic terms and processes. Of course such a book has taken a long time to prepare, consequently one expects to find, as in this case, that many of the processes of bygone days have received greater attention than some which are more modern, but nevertheless it forms a valuable reference book. Price 12s.

PHOTOGRAPH OF GROUPS, ETC.—Since writing the paragraph in Notes respecting the testimonial presented to Mr. Walter Tyler by the guests invited to his annual outing, we have received a photograph of same. Accompanying it were a photograph of a letter received in response to a telegram to Her Majesty at Windsor (containing congratulations on her birthday), and a large framed group of the guests at Marlow. In this case each of the photographs is a good portrait, although the group numbers over one hundred.

"GAMES, TOYS AND AMUSEMENTS," is a new monthly which is admirably printed. It is edited by Mr. Whitfield Crofts, who appears to have a good and interesting selection of matter at command. It is issued monthly at 2d., by Pitman & Son, London, E.C.

LIFE MODEL SLIDES.—Mr. F. F. Weeks has submitted for our inspection several slides of "Ben Hur—A tale of Christ." In this case the figures were photographed against a white background and the scene afterwards sketched in on the print. Some time ago Mr. Weeks patented this process, but eventually ascertained that a patent on such could not be maintained. What is required in this case is artistic skill, and Mr. Weeks is one of the few who possesses this to the extent of making a successful picture. The rendering of such of his life model subjects as we have seen is of a high order.

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Patent Intelligence.

The following list, relating to current Patent Applications, is compiled expressly for "The Optical Magic Lantern Journal" by a registered Patent Agent. For further information apply to The Patent Department, "Optical Magic Lantern Journal," 56, Chancery Lane, London, W.C.

No.	RECENT PATENT APPLICATIONS.
10270.	24th May, 1895. S. and S. S. Walker. Implements in cylindrical iron and steel vessels for containing compressed gases, and in the manufacture of the same.
10712.	30th May, 1895. Hy. Brier and the Scotch and Irish Oxgen Co., Ltd. Improvements in oxy-hydrogen multiple jet apparatus.
11160.	6th June, 1895. Alfred Wrench. Improvements connected with optical or magic lanterns.

RECENTLY-PRINTED SPECIFICATIONS.

Copies of the following specifications may be obtained by remitting 1/- for each specification to The Patent Department, "Optical Magic Lantern Journal," 56, Chancery Lane, London, W.C.

7326 of 1894.	Heskell. Gas cylinders.
15 & 71 of 1894.	Sciaxia. Condensing rays of light.
5730 of 1895.	Lake (Dickerson and another). Acetylene gas.
20181 of 1894.	Davenport. Optical lanterns.

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Correspondence.

TRADE TERMS.

To the Editor.

SIR,—My attention has been called to an article in a pamphlet entitled "Autotype Notes," in which it is stated that the firm of Elliott & Son, of Barnet, have endeavoured by a back-handed method to secure work from those outside the profession at trade prices, at the same time pretending to work exclusively for the profession. I therefore take this opportunity of flatly contradicting this statement.

When I joined the firm my instructions were that trade prices should only be quoted to professional photographers and recognised dealers in photographic material, and these instructions I religiously carried out. As I had the entire business control of the works, I am in a position to most positively assert that every precaution was taken to prevent the firm's net price list falling into the hands of outsiders, and in all cases when an order was received from any person unknown to the firm, such person was, per return of post, asked for his business card, and if this was not forthcoming such work was quoted at 50% (fifty per centum) higher than the prices charged to the profession; this, of course, invariably led to the work being taken out of the hands of Elliott & Son, and placed with some of the less scrupulous trade enlargers.

Under the circumstances I trust that you will give this letter publicity in your columns, as I consider it simply scandalous that a firm which has sacrificed a large amount of outside trade solely in the interest of the profession, should have untrue accusations levelled against them by such a responsible firm as the Autotype Company.

Yours faithfully,
BIRT ACRES,
Late General Manager Elliott & Son's Works,
Clovelly Cottage, Barnet.
Barnet, Herts.

COMPARING LIMELIGHT JETS.

To the Editor.

SIR,—I was pleased to see in one of your recent issues Mr. Scarborough's acceptance of the challenge I threw out simply to get up a competition. Of course, my intention was not to bring about a trial of strength between myself and any one competitor, but to lead to a general trial of jets among all the makers.

I wrote, however, to Mr. Scarborough, proposing a meeting before some society, and he was willing to carry out my suggestion. But, as we find we both use the same maker's jet, it will be seen that there is not much to be gained by our meeting in competition. True, the maker of Mr. Scarborough's jet said it was the most powerful he had turned out, but I suspect that is a bit of a "formula." I hope, still, to have the pleasure of comparing notes—or jets—with Mr. Scarborough, and probably you will hear of the result.

I am,
Your obedient servant,
AND. PRINGLE
Bexley Heath.

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Notes and Queries.

P. M. Grandin.—We forwarded your letter as desired to the writer of the article, but do not know if he uses a triple lantern. We like to oblige as much as possible by sending a reply by post when the information required is urgent, but although we may supply the former free, we cannot find the postage to convey same. We have at present a long list of postal debits, and although when replying called attention to this item, the queryists seemed to consider it too small an item to return, consequently, we had to make a definite rule.

T. T. W.—You can make slides, either life models or otherwise, to illustrate any poem; there is no necessity for obtaining permission either from the author or publisher.

J. R.—It is impossible for us to say whether we will accept an article from you, but if you send it on, and it is accepted, a cheque for same will, together with a voucher copy, be sent on to you on the day it is published. This is the way we do business.

Amateur writes:—"I have been thinking that if it were possible to make transparencies direct in the camera, it would save a lot of trouble in doing away with first making a negative. Can this by any known process be done?" *Ans.*—Yes, you will find full particulars on this subject in our issue for last February.

Saturator.—We have not heard that Scott's saturator is still made. Mr. Scott died some time ago, and we believe that the business was carried on for a short time by his father.

"*Sold*" sends a few inches of india-rubber as a sample of about 100 feet which he purchased at an auction, and wants to know if there is any means by which it can be restored to its original quality. *Reply.*—It is perished, and quite useless, not only as tubing, but for anything else. The best thing would be to again put it in an auction, and leave no reserve price upon it.

Ch. Terry.—We know absolutely nothing about the "Cambrian" saturator, except that it has been advertised in our columns. The quotation you make—"It has the peculiar qualification of saturating the gas without heat"—was not said by us, and is simply a line or so from the advt. alluded to, and consequently in no way expresses our opinion. We have never seen the saturator, much less tried it.

Quality of Light writes:—"Which, in your opinion, will be the best ether saturator to use this season?" *Ans.*—We cannot answer your question for reasons often stated in this column.

Developer.—We can quite sympathise with you under the circumstances of not having a special dark room in which to develop negatives. You complain that certain members of your family open the door and come in with a light to fetch something. We must confess that we hardly understand your difficulty. Can you not lock the door? You will find it very convenient to have a light cover—a large developing dish will do—to place inverted over the dish in which the negative is developing. White light will not then do any harm.

A. Lawson, New Zealand.—The different jets made give different qualities of light. Whose "Special" mixing chamber do you refer to? Nearly every maker has a "Special" of his own.

S.—Damar varnish may be obtained from Barnard & Son, of Berners-street, Oxford-street, London. Great care is required in transferring the pictures, and even at best they cannot be termed high-class.

G. H. Philp.—Too late, in our next. We always go to press on the 24th of the month.

[Photography Annual received as we were going to press.—ED.]

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ON Friday, June 14th, Mr. Hubert J. Elliott, of the firm of Elliott & Son, was entertained by the employés at a dinner at "The Old Salisbury Hotel," Barnet, to celebrate his return after a tour round the world, and also to mark their appreciation of his being installed as manager. An enthusiastic reception was accorded him, and the felicitous speeches made on the occasion indicated the strong sense of loyalty that animated those present. The dinner was altogether a most successful function, and promised well for the harmonious working of principal and employés in carrying on the successful operations of the firm.